GOAL PROGRAMMING APPROACH IN ADVANCEMENT OF INDUSTRIAL AND AGRICULTURAL FIELD IN INDIA

A Synopsis Submitted to the

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BY
KUMARI SURBHI
(Registration No.: BBMKU-PHD0076)

Under the Supervision of
Dr. RAJESH KUMAR TIWARY
Associate Professor
University Department of Mathematics
BINOD BIHARI MAHTO KOYALANCHAL UNIVERSITY, DHANBAD

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1. Title of the Synopsis:

Goal programming approach in advancement of Industrial and Agricultural field in India.

2. Introduction:

Goal programming is an analytical approach to solving multiple objective programming problems. It is an extension of linear programming. It was first introduced by Charnes et al. [1955] for optimal estimation of executive compensation by linear programming. The actual name was first appeared in 1961 by Charnes et al. [1955] and Cooper et al. [1955], for management models and industrial applications of linear programming. The concept of a mathematical model was introduced by Lee [1972], Dyer [2012]. In 1962, the first engineering application of Goal programming was applied to design the placement of antennas on the second stage of Saturn V by Ignizio [1978], which was used to launch the APOLLO SPACE CAPSULE that landed the first person on the moon. After that, it becomes a very beneficial and extremely utilized method for industries, finance, agriculture, especially in decision-making areas, and many more. It is the call of the present era to generate a programming through which the challenges and difficulties of achieving different goals at different stages of any organization can be fulfilled in a single mathematical model. This global demand can be fulfilled by the dynamic and advanced technique of goal programming.

3. Objectives

1. The need of a goal programming approach for solving multiple objective problems in the industrial and agricultural fields.
2. Formulate a goal programming model of the multiple objective problems.
3. Application areas of goal programming.
4. Methods to solve multiple objective problems.
5. Strength of goal programming.

4. Area of research-

My study is totally focused on the extension of goal programming and utilization of its application to provide effective and easy way to handle the complex goals faced by multiple industries, agricultural field, finance and education system and provide methods to help them in achieving the multiple goals.

5. Review of related research-

Many research papers are available on industries and agricultural field. This are given by the following mathematicians

- Charnes and Cooper (1961)
- Ijri (1965)
- Lee and clayton (1970)
- Ignizio (1976)
- Gass (1986)
- Romero (1991)
- Tamiz and Jones (1996)etc.

6. Methodology:

To solve the complexities of problems, I am going to use the pre-emptive goal programming method and network chart of Pert and CPM. Initially, every field requires planning and scheduling after controlling, this Pert and CPM network chart provides direction in the attainment of different kinds of goals according to their priorities and also most importantly it helps to minimize the total time of the entire project. Some other methodologies are

1. Lexicographic goal programming
2. Integer programming
3. Zero –one goal programming by Schniederjans and Hoffman (1992)
4. Extended lexicographic goal programming by Romero (2001)
5. Extensive survey of fields of its application by Lee (1972)

7. Importance:

Initially, every field requires planning and scheduling after controlling, this Pert and CPM network chart provides direction in the attainment of different kinds of goals according to their priorities and also most importantly it helps to minimize the total time of the entire project. This combination of pre-emptive goal programming and network chart will provide a complete solution from toe to tip of the problems faced in every field such as selection of best among multiple products, utilization of manpower according to the network provided time, supply of raw materials according to the planning made by rising demands of products in the market and the most important thing is to provide the services to achieve the goal at given time, etc. I like to focus on achieving the goals by planning, scheduling, and controlling so that the overall management in the industrial and agricultural field in India becomes extremely productive and makes our day-to-day life problems easy. It will also enhance the economy of India.

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KUMARI SURBHI

(Research Scholar)

Dept. of mathematics,

BBMK University, Dhanbad